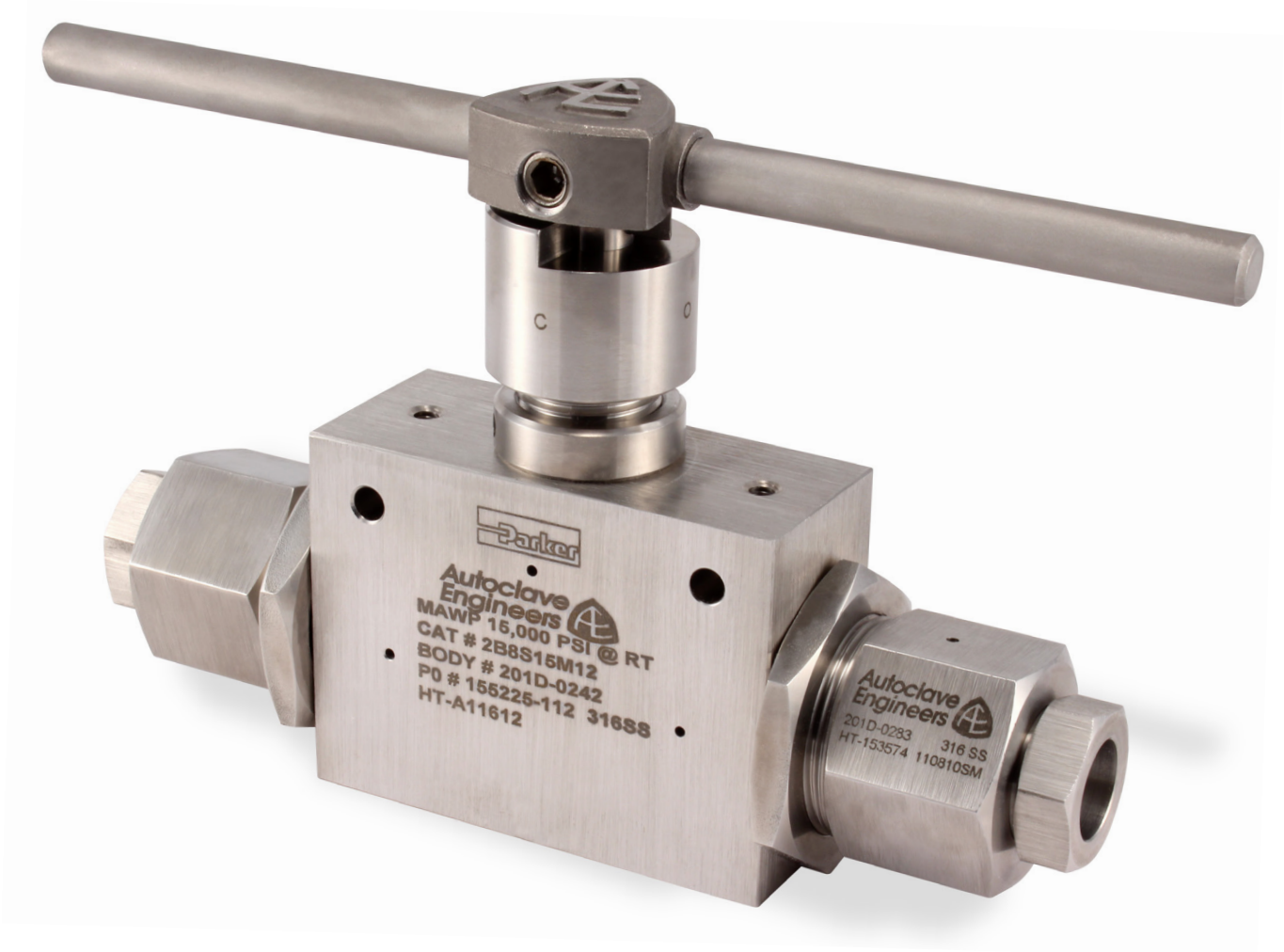

Valve Series 2B8/MAB8

High Pressure Ball Valve
Operation and Maintenance Manual

Catalog: 02-0034ME

October 2015

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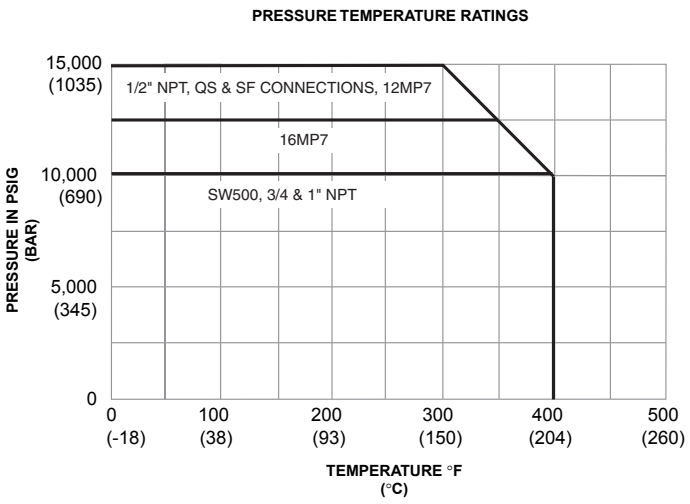
Section 1.0 Introduction

The PAE high pressure ball valve can be used at pressure up to 15,000 psi (1035 bar) depending on the tubing connections and operating temperatures. The maximum operating media pressure at room temperature is etched on the valve body. The curve shown below can be used to find the maximum operating pressure at various media temperatures.



Section 2.0 Installation

The ball valve can be installed with the flow in either direction.

Refer to the instruction section of the Parker Autoclave Engineers' Valve, Fitting and Tubing Catalog for proper tubing connection installation.

Refer to the manufacturer's literature when using air or electric operators.

⚠ CAUTION

While testing has shown O-rings to provide satisfactory service life, both cyclic and shelf life may vary widely with differing service conditions, properties of reactants, pressure and temperature cycling, and age of the O-ring. Frequent inspection should be made to detect any deterioration and O-rings replaced as required.

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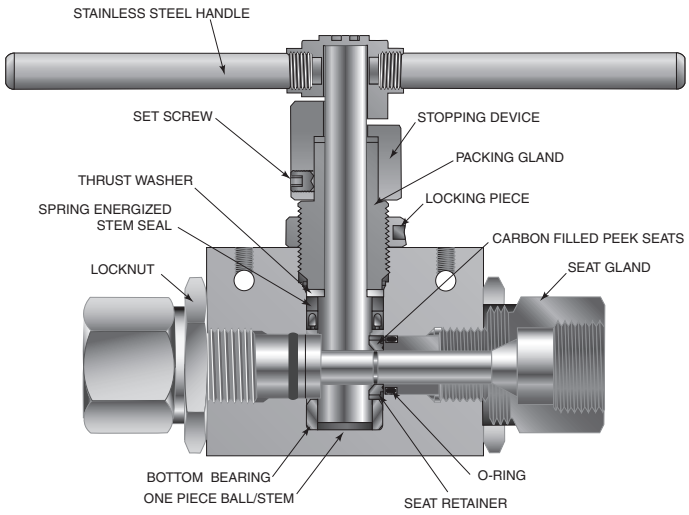

Section 3.0 Precautions

Hold the seat glands and bottom gland with a wrench when tightening or loosening the tubing connections.

WARNING

DO NOT OPERATE the valve with more than 200 in-lbs. (22.5 Nm) applied to the seat glands.

Ball valves can trap pressurized media inside the valve. Relieve this pressure by turning the handle to the "half-open" position before disassembling the valve.

Section 4.0 Maintenance

Routine maintenance consists of tightening the seat glands periodically to compensate for seat wear. With no pressure in the valve, use the following procedures:

4.1 Seat Glands

4.1.1 Remove lock device from seat glands

4.1.2 While holding the seat glands and the body secure, loosen the tubing connections

4.1.3 With the handle in the "Full Open " position, gradually tighten the glands alternating from one gland to the other in increments of 50 in. lbs. (4.2 Nm) until 200 in. lbs. (22.5 Nm) has been reached.

Do Not Apply More Than 150 In. Lbs. (17 Nm)

4.1.4 While holding seat gland secure with a wrench, tighten seat gland locknuts to the valve body.

Section 5.0 Assembly

General Assembly Procedure 1/2" Port 2-Way Ball Valve

1. Drop bottom bearing into center opening of the body.
2. Using packing gland, delicately slide the stem seal and backup onto the upper shoulder of stem. Lubricate seal with o-ring grease.
3. Lubricate the top of the upper shoulder of stem with Jet Lube and slip the thrust washer onto the stem.
4. Lubricate the top of the thrust washer and packing gland threads with Jet Lube SS30[1] and slip the packing gland onto the stem.
5. With the stem flat parallel to the front of the body, screw the packing gland/stem assembly into the body center opening until the opening of the ball is aligned properly.
6. Back packing gland out one and a half turns.
7. Assemble locknut onto seat glands.
8. Install o-rings onto the seat glands and lube the o-rings with Lubriplate.
9. Press seats into seat retainers and press these seat assemblies firmly onto the nose of the seat glands.
10. Lubricate seat gland threads with Jet Lube SS30[1] and insert seat glands into body hand tight on both sides.
11. Keeping ball in full open position, pre-torque seat glands to 40 ft-lbs (54 Nm) in 10 ft-lbs (13.6 Nm) alternating increments.
12. Back seat glands off on both sides and retorque to 200 in. lbs. (22.5 Nm) in 50 in. lbs. (4.2 Nm) alternating increments.
13. While holding seat glands secure with wrench, tighten seat gland locknuts to the valve body.
14. Hand tighten packing gland.
15. Assemble locking piece onto packing gland and tighten locking piece to body with a spanner wrench.
16. Position stopping device loosely on top of packing gland and attach the hub onto the flat of the stem. Turn stopping device clockwise until it hits the flat on the hub. Tighten the (2) set screws on the stopping device onto the packing gland.
17. Screw the two handles into the hub.

[1] SS30 is a registered trademark of Jet-Lube Corporation

Section 6.0 Installation Summary Chart

Valve Series	Connection	Seat gland Hex Size in (mm)	Locknut Hex Size in (mm)	O-Ring Part Number			Seat PEEK (qty)	Tube Gland Hex Size in (mm)	Tube Gland Torque ft-lbs. (Nm)
				Viton (qty)	-EPR (qty)	Kal-Rez Comp. 3018 (qty)			
2B8	SW500	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	.94 (12.7)	*
	SF750CX20	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	1.19 (30.2)	90 (122)
	SF1000CX20	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	1.38 (35.1)	125 (169.5)
	1/2" FNPT	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	-	-
	3/4" FNPT	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	-	-
	1" FNPT	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	-	-
	QS750	1.75 (44.5)	#	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	1.50 (38.1)	**
	QS1000	2.0 (50.8)	#	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	1.75 (44.5)	**
MAB8	3/4" MPI	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	1.25 (31.8)	**
	1" MPI	1.75 (44.5)	2.25 (57.2)	P-1663 (2)	90488 (2)	90295 (2)	101F-0826 (2)	1.50 (38.1)	**

* Torque wrench not required for PAE Speedbite tube connections. Tighten gland until sleeve begins to grip tubing then 1-1/4 turn.

** Use preset tool. For **MPI**- tighten 1/2 turn in connection. For **QSS**- tighten 1/4 turn in connection.

Using locking device.

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